

Table 1

## NR/ZnO COMPOUND STUDY - AMR

	ODR Tmin	ODR Tmax	ODR 1s1	ODR 190	ODR CRI	MS 15	Hardness	Tensile stress@300%	Tensile stress@break	Tensile strain@break
NR-CONTROL	7.1	34.7	3.26	7.24	25.12	23.42	57.9	1490	4010	539%
NR-25/150	6.7	34.5	3.16	7.08	25.51	22.00	56.7	1502	4000	535%
NR-25/150 LOW	6.7	34.0	3.21	7.03	26.18	21.58	57.0	1478	4130	554%
NR-25/150 HIGH	6.9	35.6	3.08	7.02	25.38	22.33	59.7	1631	3880	514%
NR-TEST1 Stearic acid	6.8	34.6	3.22	7.54	23.14	22.42	57.4	1536	4130	553%
NR-TEST2 Poly	6.6	34.2	3.21	7.31	24.39	22.42	57.1	1531	4220	556%
NR-TEST3 TEA	6.6	34.7	3.11	7.01	25.64	20.83	56.3	1437	3930	535%
NR-TEST4 No additive	6.5	34.5	3.19	7.15	25.26	22.08	57.8	1479	4010	539%
NR-w/o ZnO	6.4	16.2	3.23	11.77	11.71					

## SBR/ZnO COMPOUND STUDY - AMR

	ODR Tmin	ODR Tmax	ODR 1s1	ODR 190	ODR CRI	MS 15	Hardness	Tensile stress@300%	Tensile stress@break	Tensile strain@break
SBR-CONTROL	10.4	44.2	4.23	16.75	7.99	37.83	71.7	2359	3540	411%
SBR-25/150	10.7	44.7	4.13	16.85	7.86	37.00	73.0	2304	3330	396%
SBR-25/150 LOW	10.4	43.5	4.24	16.53	8.14	35.17	70.6	2350	3440	401%
SBR-25/150 HIGH	10.7	45.2	4.24	16.37	8.24	39.17	73.0	2448	3530	401%
SBR-TEST1	10.4	44.4	4.02	16.54	7.99	37.26	71.8	2427	3490	399%
SBR-TEST2	10.4	43.8	3.83	15.84	8.33	37.75	72.4	2390	3430	395%
SBR-TEST3	10.3	44.6	4.02	16.26	8.17	38.17	70.2	2414	3580	406%
SBR-TEST4	10.3	44.1	4.12	16.64	7.99	37.25	70.6	2368	3710	427%
SBR-w/o ZnO	10.6	33.0	4.20	23.99	5.05					

## CR/ZnO COMPOUND STUDY - AMR

	ODR Tmin	ODR Tmax	ODR 1s1	ODR 190	ODR CRI	MS 15	Hardness	Tensile stress@300%	Tensile stress@break	Tensile strain@break
CR-CONTROL	6.1	44.5	1.23	3.50	44.05	4.92	67.9	1650	3690	578%
CR-25/150	5.8	44.8	1.31	3.89	38.76	5.67	67.6	1684	3860	586%
CR-25/150 LOW	5.9	43.8	1.42	3.81	41.84	6.50	65.4	1613	3780	582%
CR-25/150 HIGH	6.7	48.7	1.32	5.89	21.89	5.00	67.8	1825	3440	524%
CR-TEST1	6.1	44.0	1.32	3.87	39.23	5.67	67.0	1668	3850	591%
CR-TEST2	6.0	44.2	1.38	3.88	40.00	6.50	67.5	1666	3760	592%
CR-TEST3	6.1	44.3	1.31	4.18	34.84	5.33	67.6	1677	3760	582%
CR-TEST4	6.0	44.7	1.31	3.81	40.00	5.58	67.9	1709	3790	583%
CR-w/o ZnO	5.5	37.4	3.21	6.82	27.70					

Table 2

## REPLACEMENT TREAD COMPOUND - SYNTHETIC

[illegible]

HEAVY DUTY TREAD COMPOUND - NATURAL

[illegible]

## AIRCRAFT TYPE TREAD COMPOUND

[illegible]

Table 3

# TEST REPORT SUMMARY

## REPLACEMENT TREAD COMPOUND

[illegible]

Table 4

## TEST REPORT SUMMARY

## OTR TREAD

[illegible]

Table 5

# TEST REPORT SUMMARY

## AIRCRAFT TREAD

[illegible]

Table 6

## American Metals Recovery

Sample	AHD2 #1	AHD2 #2	AHD2 #3	AHD2 #4	AVG #1-3	AVG #1-4
Dilution	0.5051/1000	0.5010/1000	0.5151/1000	0.5082/1000		
Sc 361.383	4.67	4.65	4.73	4.67		
Ag 338.289	1183	1235	1135	1249	1184	1200
Al 308.215	212	206	187	221	202	207
As 188.979	33.00	23.9	18.8	36.3	<10	<10
B 249.772	78.51	80.91	74.87	77.10	78.09	77.85
Ba 230.425	14.37	14.10	14.02	15.30	14.16	14.45
Be 313.107	<10	<10	<10	<10	<10	<10
Ca 317.933	1259	788	802	967	950	954
Cd 214.440	2463	2364	2294	2603	2374	2431
Co 228.616	<10	<10	<10	<10	<10	<10
Cr 283.563	68.81	67.49	65.30	73.78	67.20	68.85
Cu 324.752	620.9	597	597	658	605	618
Fe 238.204	8653	8249	8265	9343	8389	8628
K 766.490	16553	15967	15689	17384	16070	16398
Mg 279.077	692	678	684	753	685	702
Mn 257.610	850	821	815	900	829	847
Na 330.237	16920	16941	16575	19394	16812	17458
Ni 221.648	<10	<10	<10	<10	<10	<10
P 178.221	64.0	26.9	46.33	36.38	45.75	43.40
Pb 220.353	69157	66813	66366	73297	67445	68908
S 180.669	5367	5416	5182	5619	5322	5396
Sb 206.836	60.5	63.22	57.72	71.20	60.47	63.15
Se 196.026	<10	<10	<10	<10	<10	<10
Si 251.611	346	356	433	624	378	440
Tl 190.801	<10	<10	<10	<10	<10	<10
V 292.402	<10	<10	<10	<10	<10	<10
Zn 206.200	599946	579276	573631	635923	584284	597194

**Table 7**  
**American Metals Recovery Corp.**  
**Leach Salt Solution and Leach Salt Wash**

Leach Salt Soln	Run #1	Run #2	Run #3	Run #4	Run #10	Run #11	Run #12	Run #13
Date		071399	071399	071399	071399	071399	071399	071399
I.D.		R1&2LSR	R3LSR	R4LSR	R10LSR	R11LSR	R11LSR	R12&13LSR
Sc 361.383		4.89	4.95	4.89	4.93	4.92	4.92	4.85
Ag 338.289		3.04	2.57	2.24	2.47	<1	<1	2.39
Al 308.215		<1	<5	<5	<1	<1	<1	<1
As 188.979		<1	<5	<5	<1	<1	<1	<1
B 249.772		70.36	66.80	64.38	68.92	44.67	44.67	70.76
Ba 230.425		<1	<1	<1	<1	<1	<1	<1
Be 313.107		<1	<1	<1	<1	<1	<1	<1
Ca 317.933		177887	170739	174342	170644	123165	123165	179271
Cd 214.440		<1	<1	<1	<1	<1	<1	<1
Co 228.616		<1	<1	<1	<1	<1	<1	<1
Cr 283.563		<1	<1	<1	<1	<1	<1	<1
Cu 324.752		<1	<1	<1	<1	<1	<1	<1
Fe 238.204		<1	1.27	<1	<1	<1	<1	<1
K 766.490		8179	7645	7846	8086	5659	5659	9112
Mg 279.077		19.21	12.50	19.19	16.45	9.26	9.26	<1
Mn 257.610		<1	<1	<1	<1	<1	<1	<1
Na 330.237		3133	1162	2910	3066	2036	2036	2515
Ni 221.648		<1	<1	<1	<1	<1	<1	<1
P 213.617		<1	<2	<1	<1	<1	<1	<1
Pb 220.353		<1	<1	<1	<2	3.60	3.60	<1
S 180.669								
Sb 206.836		<1	<1	<1	<1	<1	<1	<1
Se 196.026		<1	<1	<1	<1	<1	<1	<1
Si 251.611		<1	<1	<1	<1	8.41	8.41	5.87
Tl 190.801		<1	<1	<1	<1	<1	<1	<1
V 292.402		<1	<1	<1	<1	<1	<1	<1
Zn 206.200		126.37	29.3	20.0	124.61	499.5	499.5	1170.1
1:10; Ca, K, Zn from 1:100								
Leach Salt Wash	Run #1	Run #2	Run #3	Run #4	Run #10	Run #11	Run #12	Run #13
Date	071399	071399		071399	071399	071399	071399	071399
I.D.	R1&2LSR	R1&2LSR		R4LSR	R10LSR	R11LSR	R12&13LSR	R12&13LSR
Sc 361.383	4.89	4.89		4.89	4.93	4.92	4.85	4.85
Ag 338.289	3.04	3.04		2.24	2.47	<1	2.39	2.39
Al 308.215	<1	<1		<5	<1	<1	<1	<1
As 188.979	<1	<1		<5	<1	<1	<1	<1
B 249.772	70.36	70.36		64.38	68.92	44.67	70.76	70.76
Ba 230.425	<1	<1		<1	<1	<1	<1	<1
Be 313.107	<1	<1		<1	<1	<1	<1	<1
Ca 317.933	177887	177887		174342	170644	123165	179271	179271
Cd 214.440	<1	<1		<1	<1	<1	<1	<1
Co 228.616	<1	<1		<1	<1	<1	<1	<1
Cr 283.563	<1	<1		<1	<1	<1	<1	<1
Cu 324.752	<1	<1		<1	<1	<1	<1	<1
Fe 238.204	<1	<1		<1	<1	<1	<1	<1
K 766.490	8179	8179		7846	8086	5659	9112	9112
Mg 279.077	19.21	19.21		19.19	16.45	9.26	<1	<1
Mn 257.610	<1	<1		<1	<1	<1	<1	<1
Na 330.237	3133	3133		2910	3066	2036	2515	2515
Ni 221.648	<1	<1		<1	<1	<1	<1	<1
P 213.617	<1	<1		<1	<1	<1	<1	<1
Pb 220.353	<1	<1		<1	<2	3.60	<1	<1
S 180.669								
Sb 206.836	<1	<1		<1	<1	<1	<1	<1
Se 196.026	<1	<1		<1	<1	<1	<1	<1
Si 251.611	<1	<1		<1	<1	8.41	5.87	5.87
Tl 190.801	<1	<1		<1	<1	<1	<1	<1
V 292.402	<1	<1		<1	<1	<1	<1	<1
Zn 206.200	126.37	126.37		20.0	124.61	499.5	1170.1	1170.1

Table 8

Leach Cake	Run #1	Run #2	Run #3	Run #4	Run #6	Run #6	Run #7	Run #8	Run #9	Run #10	Run #11	Run #12	Run #13
Date	070699R	070699R	070699R	070699R	070699R	070699R	070699R	070699R	070699R	070699R	070699R	070699R	070699R
I.D.	R1LC	R2LC	R3LC	R4LC	R5LC	R6LC	R7LC	R8LC	R9LC	R10LC	R11LC	R12LC	R13LC
Sc 361.383	4.94	4.99	4.95	4.96	5.01	5.04	4.98	5.00	5.05	5.01	5.01	4.98	5.01
Ag 338.289	<15	<15	127.94	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
Al 308.215	306.68	247.71	142.37	202.83	124.98	364.51	200.21	255.49	391.32	311.14	186.90	145.07	221.85
As 188.979	<15	<15	<15	<50	<15	<15	30.36	<15	<15	<15	<15	<15	<15
B 249.772	<15	<15	<15	<15	<15	273.31	266.08	157.38	312.58	<50	235.73	137.68	153.30
Ba 230.425	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
Be 313.107	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
Ca 317.933	440550	386712	407398	398061	429743	396474	389290	442256	452411	433313	420944	401001	424539
Cd 214.440	624.22	555.06	219.99	462.98	159.45	475.49	198.36	623.61	376.73	277.23	326.25	152.36	239.52
Co 228.616	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
Cr 283.563	102.34	79.96	<50	<50	31.59	110.88	56.14	80.73	121.49	<50	<50	<50	67.56
Cu 324.752	199.11	172.79	99.41	117.32	67.82	232.54	76.78	141.68	257.23	110.32	123.68	97.56	162.21
Fe 238.204	13853	11686	6751	9973	5783	16968	8502	11910	17407	8447	8281	6266	9670
K 766.490	<50	265.09	1337	216.91	1399	306.40	<15	<15	<15	1457	737.13	1058.43	741.77
M 279.077	1171	1339	965	1242	666.18	2122	646.51	914	1369	1422	1048	493.15	749.50
Mn 257.610	1253	1031	596.12	877	497.86	1454	743.21	1035	1502	723.41	718.56	544.34	848.42
Na 330.237	<50	<50	<50	<50	<15	<50	<50	<50	<50	<50	<50	<50	<50
Ni 221.648	<50	<50	<50	<50	<15	<50	<50	<50	<50	<50	<50	<50	<50
P 213.617	<50	<50	<50	<50	<75	<50	82.86	<50	<50	<50	<50	<50	<50
Pb 220.353	639	500	465.45	424	688.47	701.02	621.91	630.76	558.28	1058	663.15	698.87	821
S 180.669													
Sb 206.836	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Se 196.026	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Si 251.611	959.64	717.25	347.27	527	<50	<50	1178.21	1193	1565	454.24	1082	686.80	832.92
Tl 190.801	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
V 292.402	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Zn 206.200	75414	49870	17428	31931	19633	63319	29289	42874	75343	25832	30420	32960	51817



Table 9

American Metals Recovery Corp.  
Bulk Cement Stage 1 Solids

BC Stg 1 solids (uw)	Run #1	Run #2	Run #3	Run #4	Run #5	Run #7	Run #8	Run #9	Run #10	Run #11	Run #12
Date	070799R	070799R	070799R	070799R	070799R	070799R	070799R	070799R	070799R	070799R	070799R
I.D.	R1BCS1C	R2BCS1C	R3BCS1C	R4BCS1C	R5BCS1C	R7BCS1C	R8BCS1C	R9BCS1C	R6&10BCS1C	R11BCS1C	R12BCS1C
Sc 361.383	5.12	5.21	5.11	5.16	5.18	5.04	5.07	5.00	5.03	5.02	4.98
Ag 338.289	20.91	19.16	19.48	26.19	19.59	29.87	52.21	18.47	30.94	29.1	13.7
Al 308.215	96.78	<50	<50	92.2	176.7	130.3	233.1	137.89	539.4	122.2	64.7
As 188.979	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10
B 249.772	<50	113	<50	551	1270	941	3267	1051	142.6	1154	469
Ba 230.425	<5	<5	<5	<5	<5	<5	<5	<5	43.7	<5	<5
Be 313.107	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ca 317.933	118499	135214	151205	144550	159523	195419	136590	94084	284250	162731	120377
Cd 214.440	10962	18099	5015	4911	23422	5224	26033	7266	17297	6579	6121
Co 228.616	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Cr 283.563	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Cu 324.752	4422	3381	3266	4352	3283	3008	3942	8163	3200	4240	3795
Fe 238.204	1737	1442	663	1021	1042	868	1862	2484	2045	1284	1784
K 766.490	5114	5447	7196	6302	6967	14557	23222	3932	8525	7254	5432
Mg 279.077	364.0	313.3	239.6	360.26	509.15	249.13	<50	1062.2	2094.64	312.42	243.31
Mn 257.610	73.8	39.9	30.6	21.10	38.97	35.58	20.67	142.37	84.48	51.92	46.70
Na 330.237	1059.01	1661.43	2214.97	2548.06	4577.18	2207.31	4526	1148.50	1954.7	3102.8	1773
Ni 221.648	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
P 213.617	<100	<100	<100	<100	<100	<100	<100	<100	343.72	241.42	<100
Pb 220.353	834234	463786	450437	512057	462415	327273	537730	595226	462444	461901	448382
S 180.669											
Sb 206.836	73.5	<50	<50	41.2	52.87	<40	<70	138.6	87.01	52.8	69.4
Se 196.026	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Si 251.611	362	325	277	1017	2330	2107	5325	1865	694	1866	955
Ti 190.801	228.3	319.9	146.1	60.18	299.21	80.4	382.1	153.4	191.6	146.1	127.2
V 292.402	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Zn 206.200	70098	54726	35044	15228	19536	24367	19956	42493	25542	28751	24758

Table 10

BC Stage 2 filtrate		Run #0	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8	Run #9	Run #10	Run #11	Run #12
Date	070799r	070799r	070799r	070799r			070799r		070799r	070799r	070799r	070799r	070799r	070799r
I.I.D.	r0bcs2ff	r1bcs2ff	r2bcs2ff	r3bcs2ff			r5bcs2ff		r7bcs2ff	r8bcs2ff	r9bcs2ff	r6&10bcs2ff	r11bcs2ff	r12bcs2ff
Sc 361.383	3.56	4.53	3.46	3.38			3.38		3.43	3.43	3.40	3.45	3.44	3.46
Ag 338.289	2.05	2.78	3.10	2.36			2.33		2.46	2.54	2.40	2.32	3.42	2.22
Al 308.215	<5	<5	<5	<5			<5		<5	<1	<1	<1	<1	0.01
As 188.979	<1	<1	<1	<1			<1		<1	<1	<1	<1	<1	-2.32
B 249.772	55.10	60.54	62.58	62.24			64.46		68.98	68.31	67.35	64.29	64.09	66.67
Ba 230.425	<1	<1	<1	<1			<1		1.12	<1	<1	<1	<1	0.99
Be 313.107	<1	<1	<1	<1			<1		<1	<1	<1	<1	<1	0.00
Ca 317.933	142381	160572	152779	162257			157750		156478	151799	159284	155562	152877	138199
Cd 214.440	2.67	<1	<1	<1			<1		<1	<1	<1	<1	<1	-0.04
Co 228.616	<1	<1	<1	<1			<1		<1	<1	<1	<1	<1	-0.03
Cr 283.563	<1	<1	<1	<1			<1		<1	<1	<1	<1	<1	0.12
Cu 324.752	<1	<1	<1	<1			<1		<1	<1	<1	<1	<1	0.05
Fe 238.204	<1	<1	<1	<1			<1		<1	<1	<1	<1	<1	0.03
K 766.490	7408	8281	7591	8170			7703		8443	7489	8306	7570	3373	7323
Mg 279.077	<5	5.73	5.22	11.39			7.50		<5	<5	<5	<5	<5	0.97
Mn 257.610	<1	1.71	<1	<1			1.30		1.39	<1	2.18	1.37	<1	0.55
Na 330.237	2107	2596	2281	1694			2573		2265	2018	1865	2856	3879	1491
Ni 221.648	<10	<10	<10	<10			<10		<5	<5	<5	<5	<5	0.01
P 213.617	<5	12.29	<5	<5			<5		<5	<5	<5	<5	<5	-1.27
Pb 220.353	11.13	5.25	2.67	<1			<1		<1	<1	9.27	<1	<1	-0.13
S 180.669														
Sb 206.836	<10	<10	<10	<10			<10		<10	<10	<10	<10	<10	0.42
Se 196.028	<30	<30	<30	<30			<30		<30	<30	<30	<30	<30	1.00
Si 251.611	4.75	15.62	4.99	7.87			10.51		6.56	4.77	5.88	5.83	5.27	4.88
Ti 190.801	<15	<15	<15	<15			<15		<15	<15	<15	<15	<15	0.10
V 292.402	<1	<1	<1	<1			<1		<1	<1	<1	<1	<1	0.02
Zn 206.200	9252	11498	9700	10996			9613		10655	9456	10645	9178	9826	8963
1:10. K+Na+Ca+Zn 1:100														

Table 11

**American Metals Recovery Corp.  
ZnOx Lime**

<b>ZnOx Lime</b>	<b>Run #0&amp;1</b>	<b>Run #2&amp;3</b>	<b>Run #4&amp;5</b>	<b>Run #7&amp;8</b>	<b>Run #9&amp;10&amp;6</b>	<b>Run #11&amp;12</b>
Date		before IS	070699R	070699R		
I.D.			r4&5znoxlime	r7&8znoxlime		
Sc 361.383		4.68	4.76	4.87		
Ag 338.289		7.7	7.46	<1		
Al 308.215		172.4	176.89	121.02		
As 188.979			<1	<1		
B 249.772		<7	<5	<5		
Ba 230.425		<1	<1	<1		
Be 313.107		<1	<1	<1		
Ca 317.933		168438	160204	109598		
Cd 214.440		<1	<1	<1		
Co 228.616		<1	<1	<1		
Cr 283.563		1.4	1.09	<1		
Cu 324.752		<1	<1	<1		
Fe 238.204		150	133.19	91.82		
K 766.490		104.4	69.82	67.05		
Mg 279.077		663.5	640.45	433.55		
Mn 257.610		118	101.59	71.65		
Na 330.237			<5	<5		
Ni 221.648		<5	<5	<5		
P 213.617		--	17.66	13.07		
Pb 220.353		<15	<5	<5		
S 180.669		1140.3				
Sb 206.836		<10	<10	<10		
Se 196.026		<30	<30	<30		
Si 251.611		828.3	666.41	455.81		
Ti 190.801		<15	<15	<15		
V 292.402		<1	<1	<1		
Zn 206.200		23.3	81.43	39.72		

Table 12

ZnOx Cake (uw)	Run #0&1	Run #2&3	Run #4&5	Run #7&8	Run #6&9&10	Run #11&12
Date	072199Y	072199Y	072199Y	072199Y	072199Y	072199Y
I.D.	R0&1ZnOXC	2&3ZnOXC	R4&5ZnOXC	R7&8ZnOXC	R6&9&10ZnOXC	R11&12ZnOXC
Y 371.029	5.05	5.17	5.07	5.07	5.06	5.04
Ag 338.289	<50	<50	<50	<50	<50	<50
Al 308.215	233.7	181.8	169.2	143.6	135.8	223.8
As 188.979	<100	<100	<100	<100	<100	<100
B 249.772	573.7	59.6	48.5	64.8	44.8	396.2
Ba 230.425	<15	<15	<15	<15	<15	<15
Be 313.107	<1	<1	<1	<1	<1	<1
Ca 317.933	10968	26450	20515	58116	37861	12393
Cd 214.440	<5	<5	<5	<5	<5	<5
Co 228.616	<15	<15	<15	<15	<15	<15
Cr 283.563	<50	<50	<50	<50	<50	<50
Cu 324.752	<15	<15	<15	<15	<15	<15
Fe 238.204	178.6	172.6	193.1	136.4	129.2	182.7
K 766.490	517.5	1074.2	885.3	2582.6	1631.3	277.5
Mg 279.077	638.3	1084.6	926.3	864.0	776.0	808.9
Mn 257.610	161.6	210.2	194.2	172.2	158.2	224.5
Na 330.237	---	---	---	---	---	---
Ni 221.648	<15	<15	<15	<15	<15	<15
P 213.617	<50	<50	<50	<50	<50	<50
Pb 220.353	330.4	139.8	<100	<100	<100	<100
S 180.669	<50	378.6	<50	260.4	239.4	<100
Sb 206.836	<100	<100	<100	<100	<100	<100
Se 196.026	<100	<100	<100	<100	<100	<100
Si 251.611	1883.0	1106.0	1002.0	853.4	784.9	1739.6
Tl 190.801	<50	<50	<50	<50	<50	<50
V 292.402	<15	<15	<15	<15	<15	<15
Zn 206.200	519155	624049	574763	528840	463704	602939
Cl						
ZnO99%	797057	797057	797057	797057	797057	797057

Table 13

**American Metals Recovery Corp.  
ZnOx Filtrate**

<b>ZnOx Filtrate</b>	<b>Run #0&amp;1</b>	<b>Run #2&amp;3</b>	<b>Run #4&amp;5</b>	<b>Run #7&amp;8</b>	<b>Run #9&amp;10&amp;6</b>	<b>Run #11&amp;12</b>
<b>Date</b>	070699R	070699R	070699R	070699R	070699R	081199
<b>I.D.</b>	r0&1znoff	r2&3znoff	r4&5znoff	r7&8znoff	r9&10&6znoff	R11&12znoff
Sc 361.383	4.68	4.62	4.71	4.74	4.68	4.74
Ag 338.289	30.78	<1	<1	5.52	<1	<1
Al 308.215	<5	<1	<5	<5	<5	<5
As 188.979	<1	<1	<1	<1	<1	<1
B 249.772	43.23	55.83	44.97	42.83	46.50	50.82
Ba 230.425	<1	<1	<1	<1	<1	<1
Be 313.107	<1	<1	<1	<1	<1	<1
Ca 317.933	135938	159312	138537	133089	141828	128107
Cd 214.440	1.19	3.69	1.66	<1	<1	<1
Co 228.616	<1	<1	<1	<1	<1	<1
Cr 283.563	<1	<1	<1	<1	<1	<1
Cu 324.752	<1	<1	<1	<1	<1	<1
Fe 238.204	<1	<1	<1	<1	<1	<1
K 766.490	6865	7965	6565	6578	6915	7106
Mg 279.077	<1	1.24	<1	<1	<1	<1
Mn 257.610	<1	<1	<1	<1	<1	<1
Na 330.237	2314	870	2456	2058	2197	
Ni 221.648	<1	<1	<1	<5	<5	<5
P 213.617	<1	<1	<1	<5	<5	<5
Pb 220.353	6.07	<1	<1	<1	4.51	<2
S 180.669						
Sb 206.836	<5	<5	<5	<5	<5	<5
Se 196.026	<5	<5	<5	<5	<5	9.45
Si 251.611	<3	3.99	<1	<3	<3	<3
Tl 190.801	<15	<15	<15	<5	<5	<5
V 292.402	<1	<1	<1	<1	<5	<5
Zn 206.200	713	9048	937	843	825	528
Cl						

Table 14

Salt Cake	Run #0&1	Run #2&3	Run #4&5	Run #7&8	Run #6&9&10	Run #11&12
I.D.	r0&1nacl/kcl	r2&3nacl/kcl	r4&5nacl/kcl	r7&8nacl/kcl	r6&9&10nacl/kcl	
Date	071399	071399	071399	071399	071399	
Sc 361.383						
Ag 338.289	2.71	<2	<2	<2	<2	
Al 308.215	29.08	6.07	10.99	11.90	17.57	
As 188.979	<15	<15	<15	<15	<15	
B 249.772	19.26	15.91	31.43	41.95	54.72	
Ba 230.425	1.06	<1	<1	<1	<1	
Be 313.107	<1	<1	<1	<1	<1	
Ca 317.933	46811	36807	66948	49472	164383	
Cd 214.440	16.64	0.88	3.25	2.16	4.24	
Co 228.616	<1	<1	<1	<1	<1	
Cr 283.563	7.96	<2	<2	<2	8.18	
Cu 324.752	5.41	<1	<1	<1	2.06	
Fe 238.204	761.16	47.51	49.58	18.55	199.01	
K 766.490	2084	1724	3220	2537	2763	
Mg 279.077	53.87	<15	<15	<15	13.55	
Mn 257.610	57.70	3.71	2.91	1.51	16.64	
Na 330.237	343720	313088	276826	422796	117539	
Ni 221.648	1.18	<1	<1	<1	5.73	
P 213.617	<20	<20	<20	<20	<20	
Pb 220.353	150.68	<5	5.61	<5	18.32	
S 180.669	<15	<15	<15	<15	<15	
Sb 206.836	<5	<5	<5	<5	<5	
Se 196.026	<10	9.46	10.10	<10	16.37	
Si 251.611	41.72	22.30	15.30	15.56	54.60	
Tl 190.801	<10	<10	<10	<10	<10	
V 292.402	<2	<2	<2	<2	<2	
Zn 206.200	1192	200.30	523.29	522.07	566.94	

Table 15

**American Metals Recovery Corp.  
Zinc Oxide Cake Final Filtrate**

ZnO filtrate	Run #0&1	Run #2&3	Run #4&5	Run #7&8	Run #9&10&6
Date	062899	063099	081999	081999	082499
ICP Time Stamp					2:27
I.D.	r0&1znoff	r2&3znoff	r4&5znoff	r7&8znoff	r6&9&10znoff
Sc 361.383		4.71			
Ag 338.289	<2	<2	<2	<2	<2
Al 308.215	<3	<3	<3	<3	<3
As 188.979	<15	<15	<15	<15	<15
B 249.772	<7	<7	2.17	3.22	1.19
Ba 230.425	1.62	1.88	1.04	1.47	1.20
Be 313.107	<1	<1	<1	<1	6633
Ca 317.933	4827	5929	6894	6933	0.28
Cd 214.440	<1	<1	0.14	<1	<1
Co 228.616	<1	<1	<1	<1	<1
Cr 283.563	<2	<2	<2	<2	<2
Cu 324.752	<1	<1	<1	<1	<1
Fe 238.204	<1	<1	<1	<1	0.19
K 766.490	23.89	76.92	165.04	63.77	53.14
Mg 279.077	<1	87.75	61.24	95.97	121.74
Mn 257.610	<1	1.91	2.01	<1	3.60
Ni 221.648	<1	<1	<1	<1	<1
P 213.617	<20	<20	<20	<20	<20
Pb 220.353	<5	<5	<5	<5	3.09
S 180.669	30.19		20.11	28.86	63.50
Sb 206.836	<5	<5	<5	<5	<5
Se 196.026	<10	<10	1.82	9.12	1.04
Si 251.611	<3	<3	<3	18.51	<3
Ti 190.801	<10	<10	<10	<10	<10
V 292.402	<2	<2	<2	<2	<2
Zn 206.200	68.58	83.68	64.53	93.57	239.32
Cl					

**American Metals Recovery**

**Table 16**

**ZnO Runs**

7/1/99	ICP file 070199		
Analyte	R2&3ZnOC	R4&5ZnOC	R0&1ZnOC
Ag	73	BDL	BDL
Al	333	324	295
As	BDL	BDL	BDL
B	BDL	BDL	366
Ba	BDL	BDL	BDL
Be	BDL	BDL	BDL
Ca	3800	1240	10200
Cd	BDL	BDL	BDL
Cl	2000	2500	2500
Co	BDL	BDL	BDL
Cr	BDL	BDL	BDL
Cu	BDL	BDL	BDL
Fe	298	379	345
K	BDL	BDL	BDL
Mg	BDL	BDL	1310
Mn	302	275	323
Na	not available	not available	not available
Ni	BDL	BDL	BDL
Pb	BDL	BDL	BDL
Sb	BDL	BDL	BDL
Se	BDL	BDL	BDL
Si	1370	1990	1960
Tl	BDL	BDL	BDL
V	BDL	BDL	BDL
Zn	786000	744000	765000
ZnO99%	784000	784000	777000
	BDL=Below Detection Limit		



Tabl 17

KO-61 and coke addition, only

Temperatures C

12.3Kg Carbon to 100 Kg of KO61

TTI solids	green ball TTI 1 #1	1000 TTI 1 #2	1050 TTI 1 #3	1100 TTI 1 #4	1000 TTI 1 #5	1050 TTI 1 #6	1100 TTI 1 #7
Ag 338.289	<3	97.60	178.65	127.24	102.59	122.21	137.34
Al 308.215	2675	3917	4792	7245	5324	7180	10345
As 188.979	<15	<30	102.13	68.95	77.21	67.65	86.88
B 249.772	736.29	1323	1529	2061	1361	1890	1986
Ba 230.425	233.17	360.62	416.52	581.65	374.44	545.05	540
Be 313.107	<1	<1	<1	<1	<1	<1	<1
Ca 317.933	40144	51832	67102	81495	55258	74269	77336
Cd 214.440	492.06	27.00	37.00	68.97	29.97	40.36	45.68
Co 228.616	5.94	23.31	28.77	36.58	23.28	31.65	34.99
Cr 283.563	783.36	1406	1699	2072	2088	2198	3530
Cu 324.752	2062.48	3975	4625	6280	4255	5820	6008
Fe 238.204	82092	299906	345600	472289	321522	434690	456668
K 766.490	12646	12727	15972	13022	11369	11786	3203
Mg 279.077	5330	10847	12308	16254	11468	14893	16407
Mn 257.610	8099	21102	24057	32125	22686	30159	32388
Ni 221.648	65.27	296.41	366.19	446.72	308.09	393.58	452.73
P 213.617	990.05	1150	1301	1792	1127	1864	1826
Pb 220.353	15265	16609	15087	15223	15194	12253	8273
S 180.669	9724	17979	16472	14235	14860	20756	19853
Sb 206.836	69.26	227.63	280.64	337.66	233.61	315.93	349.74
Se 196.026	<10	<10	<10	<10	<10	<10	<10
Si 251.611	467.12	1350.88	1429.11	2395.00	1112.76	1005.75	639.04
Ti 190.801	<10	<10	<10	<10	<10	<10	<10
V 292.402	51.79	61.09	74.93	91.92	61.86	82.62	95.79
Zn 206.200	154115	187804	131907	58801	173390	48516	46099
Cl	31662	47032	45463	54059	53843	48749	3507
Na	29778	51037	46746	63232	50827	61738	48003
Carbon	5.29 - 7.24	3.5 - 3.55	1.33 - 1.59	0.52	0.75 - 0.81	1.25 - 2.03	0.20 - 0.35
undissolved solids (mg/kg)	372247	135530	87636	99364	86286	104974	66756
% undis solids	37.22	13.55	8.76	9.94	8.63	10.50	6.68

## Test Group 1

KO-61, Coke and Calcium Hydroxide form Leach cake

34 Kg Ca (OH)<sub>2</sub>; 12.3Kg Carbon to 100 Kg of KO61

TTI solids	green ball TTI 3 #1	1000 TTI 3 #2	1050 TTI 3 #3	1100 TTI 3 #4	1000 TTI 3 #5	1050 TTI 3 #6	1100 TTI 3 #7
Ag 338.289	71.62	28.81	13.00	92.48	97.64	113.61	54.36
Al 308.215	3712	7698	10317	11053	7914	9435	11338
As 188.979	<30	<30	<30	64.12	<30	<30	<30
B 249.772	915.27	1235	1663	1729	1439	1639	1564
Ba 230.425	211	333	443.40	471.40	381.01	427.40	416.94
Be 313.107	<1	<1	<1	<1	<1	<1	<1
Ca 317.933	128859	186925	243870	255457	214479	241665	237813
Cd 214.440	512.33	908.74	37.26	37.16	30.99	34.52	34.64
Co 228.616	13.35	24.94	27.51	28.08	23.13	26.50	26.55
Cr 283.563	1707	2491	3419	3612	2840	3489	3290
Cu 324.752	2619	3672	4812	5016	4353	4912	4598
Fe 238.204	193223	280025	364257	382183	322750	370845	345188
K 766.490	9249	8988	7885	2190	7334	3557	670
Mg 279.077	7421	10613	13953	14854	12035	13914	13042
Mn 257.610	13590	19419	25603	26836	22849	26373	24385
Ni 221.648	179.10	273.49	335.31	334.97	299.80	325.85	337.35
P 213.617	575	827	1502	1483	1322	1601	1311
Pb 220.353	14220	12594	7268	2056	7341	14030	2605
S 180.669	9479	4935	6886	10682	13740	14797	16463
Sb 206.836	142.95	225.88	81.10	259.50	235.74	268.46	238.60
Se 196.026	<10	<10	<10	<10	<10	<10	<10
Si 251.611	752.27	405.74	350.64	453.06	437.34	425.62	627.80
Ti 190.801	<10	<10	<10	<10	<10	<10	<10
V 292.402	42.56	69.01	103.01	88.14	69.97	75.32	79.88
Zn 206.200	178049	99891	19899	2228	50962	25661	1010
Cl	100743	32685	20023	4465	23191	10831	780
Na	26662	30373	30190	20961	25314	27603	21676
Carbon	8.56 - 8.82	1.41 - 1.58	0.37 - 0.56	0.27 - 0.55	1.50 - 1.74	0.58 - 0.63	0.23 - 0.27
undissolved solids (mg/kg)	88123	47610	78667	43611	40503	63486	49831
% undis solids	8.81	4.76	7.87	4.36	4.05	6.35	4.98
sample description							

2

[illegible][illegible]

Note: CaO from store bought calcined lime